MICHIGAN FARMER.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC ECONOMY.

Volume III. Jackson, March, 1846. Number 12.

PUBLISHED MONTHLY,

BY H. HURLBUT,

EDITOR AND PROPRIETOR.

FIFTY CENTS A YEAR;

Five copies for Two Dollars—payable in advance.

[For particulars see last page.]

Successful Culture of Potatoes.

To the Editor of the Michigan Farmer:—

The last season was one very unfavorable to the potatoe crop,—at least in this section of the State. The long and severe drouth of the potatoe season very materially affected the crop, commencing about the time of their "setting," and continuing till the vines were withered; the tubers, in the mean time, having attained no considerable size. Yet, notwithstanding this drouth, I succeeded in obtaining a good crop. It may, perhaps, be interesting to your readers to learn my *modus operandi* in cultivating potatoes, particularly the crop of last year, whereby I raised 250 bushels from 5 bushels planting, on ½ an acre of ground.

The soil was a deep sandy loam. I manured it slightly with well rotted barn-yard manure,—only five loads to the ½ acre. I then ploughed it deep, so as to turn up a portion of the sub-soil. This was done in April, so soon as the ground was suitable for plowing. I then let it remain till the time of planting,—the 31st day of May. I then prepared my seed in the following manner:—I cut the potatoes into small pieces, so as to have not more than one or two *eyes* on a piece; as fast as cut, the pieces were put into a dry barrel, and four quarts of gypsum and lime, mixed in the proportion of three parts of gypsum to one of lime, were poured upon a barrel of these pieces, and well shaken together. The potatoes thus fresh cut, the plaster and lime passes through, and adheres to all the pieces. I then marked out a land, ten paces wide, and plowed a furrow around it four or five inches deep. The pieces were then dropped in this furrow 10 inches apart, around the land thus marked out. The next furrow covered them up. In the third furrow, the pieces were again dropped, and again covered by the succeeding furrow, till the whole land was planted; so that the potatoes when planted were about three feet apart between the rows, and ten inches in the row. When the potatoes were up, and had attained a suitable size, I went through them with a cultivator; passing around each land, as they were planted. The potatoes were then weeded out with the hoe,—adding no more earth to the potatoes,—carefully leaving the surface as nearly level as possible, so that the potatoes received all the benefit of the rain that fell;—not a drop ran off. The potatoes, as they came up, exhibited the finest appearance imaginable. The leaves were large, the stem thick, and of a very dark green, which appearance they retained till they had fully come to maturity, manifesting by their appearance no signs of suffering, during the long continuance of drouth. Each morning after a dew, the ground would be wet, or quite damp, around the vines, and penetrate quite to the roots of the potatoes.

This was obviously the effect of the minerals,—the lime and the plaster applied to the seed potatoes.

This method of planting has an advantage over the old, in several particulars;—in the saving of time in planting, in hoeing, in digging, and in the yield; three-fourths of the whole labor being performed by team. As the potatoes are planted by the plow, so are they dug by the plow,—following with the hoe to exhume, those that may be inhumed. The labor is thus lessened and lightened. The yield is far greater, the whole ground being occupied, with the exception of the space between the rows, say 3 feet, which is sufficient to admit all the light and heat necessary for the protection of the crop.

A plow of the fashion of the side-hill plow, would be the best to plant potatoes with—by the use of said plow the rows could be made straight by turning the furrow the same way back and forth.

One word in relation to the best kind of manure for potatoes, and the manner of applying it, and I have done for the present. From the chemical constituents of the potatoe plant and the potatoes, (tubers,) and from experiments made the past season, I am convinced that a compost of lime, gypsum and ashes, applied to the potatoe seed at the time of planting, will afford the proper nourishment required by the potatoe. The plants or tops being *lime*, and the potatoes, (tubers,) *potass* plants—consequently *lime* and *ashes* are necessary food for their perfect development.

This article is already too long—more in relation to the potatoe, and its necessary food, in a future number.

The potatoes of the above experiment were of the kind called Marino.

Very Respectfully Yours,

M. W. OUT EAST.

Jackson County, Feb., 1846.

For the Michigan Farmer.

Cultivation of Carrots.

MR. HURLBUT:—In the December number of the Farmer, I noticed a request for information on the cultivation of the Carrot. Having had several years experience in raising Carrots as an article of food for cattle and horses, as well as for seed, if the results of my experience, in your opinion, will be of service to your numerous readers, you are at liberty to publish them.

The only difficulty in their cultivation appears to be that suggested in the Farmer, to obviate which I have adopted two methods generally with success. I, however, give the preference to the first which I mention.

Having first prepared the seed properly by divesting it of what is *commonly called* its hair or fringe, by rubbing it through a coarse sieve, I then take about the following proportion, say, one pint of seed, and five pints of sandy loam, or any soil naturally adhesive. Put the mixture in any convenient vessel, mix thoroughly, adding milk-warm water sufficient to moisten the mixture. Place the vessel in a warm room or in the sun, observing to stir the mixture daily for from two to four days, and adding a little water if necessary. When the seeds have become properly swollen, and before germination, I sow the mixture in drills, one inch deep, twelve inches apart, and cover the seeds about three-fourths of an inch deep, always plowing or spading the soil just before sowing, and making the drills no faster than the seeds are sown, to prevent the soil becoming dry. By pursuing the above method the seeds generally germinate, and the young plants show themselves as soon as the weeds, and often before. The hoe should be applied immediately, and may be even before the young plants show themselves, the drills being fairly visible. The plants may be thinned at the first or second weeding.

The other method is, to prepare the seed as above, and just before a rain, sow the seed on land just plowed, and rather than sow the seed when the soil is dry, I prefer waiting fifteen or twenty days for a favorable time, as carrots will do well if not sown till the first of June.

I wintered a horse for three successive winters first on Carrots, the second on Broom Corn seed, and the third on Ruta Bagas. I prefer Carrots to either, and Broom Corn seed next, and think a bushel of either equal to a bushel of oats; but as the carrots are a more sure crop, I prefer them. To be successful, the hoe must be often used in the early stage of their growth. Broom corn seed is an excellent article of food for horses, and I have raised as many bushels of seed per acre as of oats. From two to eight hundred bushels of carrots may be obtained from an acre. Carrots will do well on any rich mellow soil, but I prefer a sandy loam.

While on this subject, permit me to say that last season I sowed carrots, parsnips, turnips, sunflower, and planted dahlias on the ridge of muck, thrown out of a three feet ditch in May, all of which succeeded well.

S. B. NOBLE.

Ann Arbor Garden, February 4, 1846.

NOTE.—To the above we would add, as a further expedient to prevent the germination or subsequent growth of the carrot being hindered by drouth, to mix with the seed twelve times its bulk of finely powdered charcoal. It is stated in the Gardener's Chronicle, an English publication, that this has been proved beyond a doubt to facilitate rapidly the growth of root crops in dry weather.

It is obvious that the cultivation of a long, tap-rooted plant, like the carrot, should never be attempted but with deep culture. No one can reasonably expect that the root will extend far into the cold subsoil which has never been exposed to the ameliorating influences of air and sun.—ED.

Management of Sheep.

EDITOR OF THE MICHIGAN FARMER:

* * * * * * * *

Sheep in winter should neither be too closely confined, nor too much exposed to the changes and inclemences of the weather. A method which would be the best in the East, would not be the best in this State.

The good shepherd should be governed by cir-

cumstauces, and not by *rules*—especially such as are laid down as infallible by shepherds in countries where deep snows prevail for many months successively.

I have not had much experience in the management of sheep in this State—consequently I cannot offer you the results of *experience;* but I will venture to give you the results of observation. When a Michigan farmer has determined on the purchase of a flock of sheep, and enters extensively into the wool growing business, his first step should be to prepare suitable sheds for the protection of his flock. These sheds should be built upon such a plan as to completely protect his flock from the weather, and at the same time be well ventilated. At the commencement of the cold rains in the fall, and during their continuance, the sheep should be housed—but as soon as the "weather clears up," they should be allowed their range. The same course should be pursued during the winter, housing them in inclement weather, and nights, and letting them range in pleasant weather. It is not sufficient to have sheds prepared, where the sheep may resort when they choose—for sheep do not know enough to go in when it rains—they should be driven to shelter at the judgment of the shepherd, and not left to their own discretion:—for it may so happen that the weaker of the flock will become chilled to death before the more hardy, the leaders of the flock, will think it discreet to seek shelter. Sheep do not feel the effects of inclement weather so soon as other animals, being shielded by their fleece, and therefore will not as soon seek shelter, and for this reason they require the more care. If they do not feel the effects of inclement weather as soon, the ill effects are more lasting. After the fleece becomes saturated, it is a long time before it is thoroughly dry. And a wet fleece upon the back of a sheep, in cold weather, is as uncomfortable, and as deleterious, as a wet garment upon the back of the shepherd. Whenever the ground is bare in the winter, the sheep should have the benefit of it;—for the oftener a sheep can smell the ground, the better—and the healthier will it be. A sheep should never be closely yarded or confined in pleasant weather, whether it be summer, or whether it be winter; for yarding and housing are, at best, only necessary evils.

Very Respectfully Yours,

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N. Y. STATE AGRICULTURAL FAIR FOR 1846.—The next fair of the N. Y. State Agricultural Society, will be held at Auburn, on the 15th, 16th, and 17th days of September next.

Cheese-Making.

Who, that has ever seen a cheese, has not heard of the fame of old Herkimer,—the banner county of the whole Union, in the noble art of cheese-making? The statistics of her products in this line have gone the rounds of the newspapers every where. The past year she boasts of having manufactured 8,208,796 lbs., and so says the State census. One town, (Fairfield,) turned out the enormous amount of 1,355,967 lbs.—the greatest product probably ever made by a single town. Nor is the county less famous for the quality, than for the quantity of its production. In the New York market, Herkimer county cheese stands first in estimation.

Now as we like, when we can, to go to head-quarters for information, we have written to two friends of ours, eminent proficients in the art, in the above mentioned town of Fairfield, the very emporium of cheese-mongery, for descriptions of their process; one method to be adapted to a large, the other to a small dairy. We have received the latter communication, and have only to say if the description enables the reader to make as good cheeses as those of the authoress, they will be good enough. We reserve the communication for the first number of our next volume, giving at present, as appropriate to the season, the recipe for the preparation of the rennet.

For the Michigan Farmer.

Rennet.

After having emptied the stomach, (but not washed it,) a stick which will bend, but not break, is inserted to keep it stretched out: it is then filled with salt and hung up to dry, kept in a dry place to prevent its dripping, occasioned by dampness. Those of the previous year make the best cheese. When prepared for use, a rennet is put into a pint of clear water for one night, two quarts of brine having been boiled, skimmed, and become cold, is added to it. Of this liquor, which must bear an egg, and have salt to spare, half a gill will turn to curd five pails of milk, if first rate; but the strength of rennets greatly vary. As the liquor is used up, add salt and water till the strength is exhausted.

DIAMOND CEMENT.—This article, so much esteemed for uniting pieces of broken glass, for repairing precious stones, and for cementing them to watch cases and other ornaments, is made by soaking isinglass in water until it becomes quite soft, and then mixing it with spirit in which a little gum mastic and ammoniacum have been dissolved.—*Scientific American.*

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Experiments in growing Indian Corn.

Ed. Cultivator—One and a half miles north of this village, is an extensive black ash swamp, three miles east and west, averaging three-fourths of a mile in width. Three years ago, a road was made across the width of this swamp, by laying logs crosswise compactly together, and covering them with muck taken from ditches, cut three feet deep on each side of this causeway. Judge Clark and other proprietors of this swamp, cut a ditch six feet wide at top and three deep, connecting with the ditches of this road, running east 1½ miles to the termination of the swamp at Black Brook. This season Judge Clark tried the experiment of growing Indian corn on a field of 1½ acres, directly at the junction of the road and the main ditch. The black ash and elm trees had been cut off three years; a few turneps were grown on it the first season; last season a crop of potatoes, which were much injured by the rot. It was now plowed once as well as the stumpy incumbered ground whuld admit, and planted immediately after it was plowed, 24th May, with Dutton corn in hills three feet each way. Some practical farmers predicted that if the season was wet, "the crop would be drowned."—if dry, "the muck would dry up and the corn wither." I went over the field early one morning after the second hoeing, and the ears had commenced forming, in the height of the great drouth of the past summer. Instead of finding the soil dry and thirsty, the whole loose peaty mass was redolent of moisture. It appeared to me that during the past very warm night, the hydrogen of the decomposed surface had united with the oxygen of the air, thus forming water, by a sort of capillary attraction, not less than by chemical affinity. Had the surface soil been less porous the union of the two gases coul l not have taken place, at least to the same extent. Had not the peaty surface been in a fine state of decomposition, the like result would not have been produced, the corn would have been slender, the leaves curled, the *farmers' prediction fulfilled*. Had it been a wet season the ditches would, by taking off the surplus water, have prevented the "drowning" of the corn; but the decomposition of the peaty mass would have been so much retarded, by the absence of solar heat, that the farmers' prediction would have been, in effect, fulfilled; less however from the effect of the incumbent water than from the lack of solar heat. The surface soil of this swamp is nearly four feet deep, resting upon a compact silicious clay, of a light grey color; this corn yielded 140 bushels of sound ears to the acre, with two hoeings.—*Alb. Cult.* S.W. *Waterloo.*

Seedling Fruit.

Messrs. Editors,—In your last number I notice an article "on the cultivation of the Peach, from the Western Farmer and Gardener." It commences with a question which the undersigned (John Longworth) says he has "never found a person that could answer, viz: "Will the pit of the budded peach produce the same fruit as the bud or the stock, or a mixture of the two." I am happy to state a principle which I have discovered to be among the invariable laws of nature, and which, I think, settles this and many kindred questions of high importance to the grower of fruits and plants in all their variety. The principle is this. *Each kind produces its like when uncontaminated by the proximity of different kinds, while in blossom.* I would give many examples both of purity and contamination. I have for several years raised and set (as well as sold,) the seedlings of the earliest "rareripe," having no other peach tree near. The fruit of all was *alike in all respects*, except the circumstantial difference occasioned by the soil or age of the tree. I will mention another case where the pollen from different kinds was mixed, the produce resembled some of the originals, and some new varieties were obtained. This suggests, as I think, the only way in which we can be sure to obtain the same kind, either from the stone or bud; that is when it is produced by a tree so situated, that it cannot be mixed with any other kind. If the bud or stone be taken from a tree in any other situation, there is liability to mix, of course uncertainty. This principle applies to any, and all plants, whether the fruit be on the top or root, provided they bloom at the same time, and are so situated that the pollen can be transferred to others.

I am yours truly, B. Willard.

—*Boston Cultivator.*

Successful Farming--Value of Agricultural Papers.

Mr. Breck:—In a recent number of your paper, you proposed the following inquiry: "Are there not some among our readers, who, in their farming operations during the past year, have either *done* something, or *seen* something, which might benefit others, if publicly promulgated?"—I have plodded on through the past year in my usual course, without *seeing* or *doing* anything that would particularly interest others; but as you appear desirous that your readers should *communicate*, I have concluded to give a brief account of my *doings* for the last *seven years*, which you may *promulgate*, if you think it worth anything to the public.

Eight years ago, I purchased a piece of land, large enough to be called a small farm, if it had contained buildings. It had been managed by the old system of farming, until the crops would scarcely pay the expense of cultivating. I let it out the first year on a lay, and when the crop was divided, my share was so small, that I was fairly sick of my purchase. I then offered to rent it, but no one would give me 4 per cent. on the cost.—My friends advised me to manage it myself, for the purpose of improving the quality of the soil. My reply was, that I was no farmer—had done nothing at it since I was a boy, and had been more than 40 years engaged in other business. However, as there was no alternative, I very reluctantly prepared to commence operations, which looked very discouraging at the age of threescore, without experience, to engage in a new calling, that had proved disastrous to so many of my acquaintance, whose advantages were far superior to mine. But, as I said, there was no alternative: I took the "New England Farmer" for my chart, and embarked.

I divided my land, devoted to rotation crops, into 6 fields, of about 3½ acres each: a new field

was taken up every year, and first planted with corn, then with potatoes, and sown with winter rye in the fall after the potato harvest, and seeded down, remaining in grass three years before the rotation comes round. This course gives me one field to corn, one to potatoes, and one to rye, each year, and the other three to grass. I have, in addition, two acres of reclaimed bog, which is not plowed, and 1½ acres for raising root crops and garden vegetables, planted every year; the whole making about 25 acres, which, with 2 or 3 acres of salt marsh, and a small piece of woodland, constitute my farm.

The first lesson I took in my new calling, was to plow no more than could be *well manured*, and to have *help* enough to do everything *in season*. This has not been lost sight of. My first crops were pretty fair, and have been gradually increasing from year to year, so that the same *land* which seven years ago would not rent for 4 per cent., has yielded more than 20, the past season, after paying all the expense of cultivation. My last crops were estimated at $900, and after deducting the cost of labor, board, manure, seeds, farming tools, taxes, &c., it leaves a balance of more than $550 for the rent of land. Have sold over $600 worth, and the balance is laid in for my own consumption, which is estimated at the same price as that sold. I could give a copy of the account in detail if required.

It is no exageration in saying, *that I am more than a thousand dollars the better off for the information I have derived from agricultural papers during the last seven years*, in my small way of farming. From that source, I have learnt the best methods of composting manures, and the kinds best adapted to different soils; the best rotation of crops, the selection of seeds, and the method of cultivating each kind: also, how to reclaim bogs, of which I had two acres of no value, but which since that time have produced six tons of good hay annually. All this and much more I have gleaned from the experience of others, communicated through the medium of the *press*. But still, I am not so much of a "book farmer," as to believe one half that is published is of any benefit to ordinary farmers, like myself. I have tried *some* experiments recommended in your paper, that proved a real disadvantage. Yet I am fully of the opinion, that every farmer who can *read*, ought to take an agricultural paper: for by selecting such advice as will apply to his particular soils and crops, he can treasure up something, in the course of the year, that will be worth more than the cost of the paper. C.

Wickford, R. I. Jan. 1846.

—*N. E. Farmer.*

Buckwheat without Grit.

Did any person, who eats buckwheat cakes, ever have the good fortune to get any containing not a particle of grit? A method not generally known, was lately stated to us by a practical farmer, who says that buckwheat raised in this way is entirely free from the difficulty.

The buckwheat is sown at the usual time, but before harrowing, a bushel of rye is sown with it to the acre; they both come up together, and the buckwheat, being much the most rapid in growth, soon obtains the ascendancy, the rye only forming a smooth green carpet beneath, which completely prevents the dashing of the grit of the soil by rain upon the buckwheat when it is cut, and otherwise keeps it clean. After the crop of buckwheat is removed, the rye obtains sufficient growth before winter, and the next season affords a good crop of itself. Thus, the buckwheat is protected, and two crops obtained from a single seeding.—*Albany Cult.*

Description of a Mounted Stone-Boat.

Take a stick 3 by 4 inches, and 4 feet long, on which place a pair of strong wheels, 18 inches in diameter. Take another axle, 4 by 6 inches, 6 feet long, into which frame a tongue suitable for oxen or horses, as the case may be, then borrow the forward wheels from your lumber wagon, and place them on the long axle, and you have the "movements" finished.

Then take stone-boat plank of the usual form and bolt the hind ends fast to the *under side* of the short axle; pin a piece of scantling across the forward ends, into the centre of which drive a strong iron staple and connect it by the swivel to the under side of the long axle. The reason why the forward axletree is longest, is, to give room for the wheels in turning. The above combines in a great measure the advantages of a cart and stone-boat, viz., ease of draft and facility of loading,

Nov. 8, 1845. HIGHLANDER.

—*Albany Cultivator.*

Improvement of Clayey and Sandy Soils.

Old Boussingault knows a thing or two, (says "Abraham Smith," in the Western Cultivator,) but he has not satisfied the practical farmer how he might supply the defect of clay in sandy soil, and sand in clay soil. May I venture a hint, in homespun language? It is well known that there are certain vegetable matters that are quickly decomposed, as green clover, green oats, &c.; and others slow of decomposition, such as ripe timothy, rye straw, &c. It is also known that the defect in sandy soils is, principally, that the land lacks adhesion, and is too quick a conductor of heat and air, while the reverse is the defect in clay. Hence the remedy is indicated. With a clay soil, plow in hard woody substances, as ripe timothy, and plow in the fall. On a soil too sandy, plow under green manure, and plow at the time that the vegetable matter is fullest of sap; say clover in blossom or oats just beginning to head. Chemists can tell us why and wherefore, and a practical man may see the effect, if he will try.

NEW WAY OF MAKING BUTTER.—Another discovery has recently been made, which I think it right to mention, as it may be perhaps adopted in America with advantage. It is rather a curious idea, certainly, for a Bishop to become a patent butter maker, but so it is. The Right Reverend Father in God, the Lord Bishop of Derry, has discovered that the old process of churning may be done away with. He sends a stream of atmospheric air through the cream, and the oxygen of the atmosphere thus coming in contact with it, speedily converts it into butter of a better quality and with less labor than by the old process,—

Eleven gallons of cream on one occasion, produced 26 lbs. of butter. This mode of butter making is now becoming general, and perhaps some of your agricultural readers may take the hint.—*Cor. of Boston Atlas.*

Cultivation of Indian Corn.

Discussion at an Agricultural meeting at the State House, Boston, Feb. 10th.

Mr. Gleason, of Wayland, opened the discussion. He said that formerly he considered Indian corn an unprofitable crop, but from further experience he found it to be one of the most valuable crops. He made an experiment by ploughing in rye and planting corn the 12th of May, without other manure and he got a good crop. His land was light and with a moderate portion of manure, or by ploughing in rye, he could raise good crops of 30 or 40 bushels to the acre. He had tried several kinds of corn. He raised ears 15 inches in length, and had raised 75 bushels to the acre. Every part of a corn crop was useful. The stover was valuable, and even the cob was good; was worth as much as corn of the same weight. A horse had been kept mostly on ground cobs. He was 22 years old, and in this way his condition was much improved.

He selects his feed in the field. Cuts no stalks, but when the corn is glazed, cuts all up together, and stooks it. In this way the grain is better. The large buts cut up in the old way, are of but little value; cattle cannot eat them. He plants from the 1st to the 15th of May. Best to plant early, as it is better to have corn cropped twice in the spring by frost, than once in the fall.

Mr. Rice, of Middlesex, said that on his farm Indian corn was as profitable as any other crop. His land was strong and moist, and he had to manure highly to get a good crop of corn, as his soil was not so favorable to this crop as a lighter soil, but his land produced good crops of grass for a longer time than drier soils. He had tried the Dutton corn, it was large and showy, but he was deceived on shelling it. He preferred the 8 rowed Canada.—He plants the large corn for green fodder, and found it better than the southern. He preferred turning under the sward just before planting, to using old fields for a corn crop.

Mr. S. M. Stanley, of Attleborough, said that he had cultivated corn, for 30 years. He had made numerous experiments, with a view to improvement, and had formed a system which succeeded well, and enabled him to raise corn at a small expense. His object had been to get larger crops, and at a reduced expense.—He was told 35 years ago, in Maine, that corn cost a dollar per bushel, and it might in the way they managed, and the same story is told now. But he would show that it could be raised for 50 cents a bushel, and when northern corn is 50 cents a bushel, we can raise corn at a good profit, having a price according to its relative value. He deprecated the practice of going to New York and other places to mill. A large portion of the land in this state is gravelly loam, or sandy loam, and better adapted to corn than grass. He generally gets good crops of corn, from 40 to 65 bushels to the acre, while the grass crop often fails, sometimes yielding only half a crop.

Mr. Stanley makes his manure in winter by bedding his cattle, which are kept in a barn cellar, with leaves, whortleberry bushes, and other coarse materials, mixing the whole up together. He applies three and a half cords of this manure to the acre on the grass, and ploughs just before planting, spreading the manure as it is turned in. He ploughs 8 or 10 inches deep, then harrows once. Mixes one part of plaster and two parts of wood ashes together, and then drops this where he wants his hills, making a mark with his foot; when a person not accustomed to dropping in this way attends to it, the hills may be marked out by drawing chains both ways, 3 or 4 at once fastened to a pole. The hills about 2 1-2 feet apart. About a teaspoonful of this mixture is applied to each hill, requiring about five or six bushels to the acre, on which there are 5 or 6000 hills. The mixture is allowed to spread a little as it falls, lest the ashes injure the corn—4 or 5 kernels of corn are dropped to each hill, and 3 or 4 allowed to stand; when the corn is well up he goes through it both ways with the cultivator, soon after, the weeds are cut up around the corn with a hoe, which is quickly done. He prefers having all the plants in the hill close together, for convenience in weeding. The same course is again gone over with the cultivator, and the third time if necessary, and if more weeds start they are pulled up by the hand, to keep the land clear; grass seed is sown at the last time of cultivating. As no hills are made the land is on a level and prepared for the reception of grass seed. The whole expense between planting and harvesting, including sowing of grass seed does not exceed four dollars per acre. When the corn is glazed it is cut up at the ground, four hills laid in one heap, and on the same day, or in the course of a few days, according to the weather and other circumstances, two heaps are put into one, placing the dry sides together, and bound with rye straw, and then four bundles are set up together in a shock. If intended to remain till dry, these bundles are tied together at the top and turned over. But if convenient at the time of tying up, or after drying a few days, it may be carried to a wall, and set on the southern side; two or three bundles deep, where it will dry. When it is well dried it is carried to the barn,

and may be husked by children, or invalids, or by others in the evening or on stormy days.

Mr. S. stated that sometimes the corn fodder paid the whole expense of the crop, including use of land and manure, one half of the barn manure and breaking up the land, being charged to future crops. At other times the cost of corn besides the fodder, had ranged from 6 to 16 cents a bushel. It seldom exceeded a shilling. He prefers planting as early in May as possible. Fast rocks are on his land, and it is hard to plough. His system makes deep and permanent improvement, and when the land is ploughed again, a rich, mellow mould will be turned up. Some disapprove of burying manure deep, from there having turned up a sterile soil, and using no other manure at the surface or in the hill, their crops have failed. He had tried ashes in various ways and found the one he had named the best. He had by this system raised large crops at very small expense, and improved his lands. It was not a matter of conjecture, but of facts as he could show to any one. He had given a particular account of the expense of cultivation which might be seen in the Boston Cultivator of March last. He sold his corn fodder last year, when hay was cheaper than it is this season, at $12 per ton. He had 1 1-2 tons to the acre.

Breaking Steers.

Now is a good time to commence breaking steers. For this purpose, bows and yokes of a suitable size must be prepared, which should be first put on them standing together in the stable after they have eaten their morning's fodder. When they have worn this an hour or so each day for several days, they may be taken into the yard and allowed to walk round a short time, and then unyoked. When well accustomed to their yoke, they should be placed between two other pair of cattle, and driven off a short distance without any load.—Then they may be attached with the other team to a load, and depend upon it they will learn what is wanted of them, from seeing what other cattle do, faster and easier than in any other way. Never whip them or speak harshly. If they do not perform instantly all that is required, it is from ignorance generally, and not, as it is too often supposed, from obstinacy or viciousness. Then all you have got to do is, to teach them from the example of other well broke cattle. But when one has no other cattle to break them with, more attention will be necessary, and they will require guiding in their movements by a cord attached to their horns. The teamsters in New England excel in breaking and driving cattle, and they frequently have them so well taught, that they will perform single or together, in the yoke or out of it, by mere word of command, anything reasonable which can be required of them.

The finest breed of working cattle is the Devon and its crosses. These are of a deep, bright red color, with orange colored noses, an orange rim round the eye, and a beautiful clean upturned horn of a clear yellowish white. Our farmers in this vicinity frequently send to Connecticut for such oxen. They are active, hardy, fine made annimals, and capable of drawing very heavy loads. We have seen a pair of four year old steers start off at full gallop with a load of 6000 lbs. at the cattle shows in New England, and then turn round and back the load on level ground with perfect ease. This, however, is a large load for such young animals, and great care should be used lest they shoule strain themselves in their ambitious efforts to move it. These oxen will plough an acre of ground as quick as a pair of horses; indeed, they oftener beat than get beaten at the plowing matches. We greatly admire such animals, and always kept them on our farm for work instead of horses. We found them more servicable in the generality of farm work, while their gearing and food did not cost near as much as those of horses; and then if any accident happened to them they could be killed for beef, as we always kept them in good order. If an accident happens to a horse he is a dead loss, save his shoes and hide.

We do wish, boys, you could persuade your fathers to be more careful in their selections of bulls and cows to breed from. The beautiful pure Devons can be had at quite reasonable prices now. But you will use them at least, we hope, when you get to be grown men. Let the eye once get accustomed to the beauty and good points of this choice breed of cattle, and you would never forget them.—How we wish your schoolmasters were able to instruct in such things. We would engage to teach you more in a few hours converstation, with some good live animals before us to illustrate it, than you could learn from books or by yourselves in half a life. Thus taught, you could not be imposed upon by those miserable cheating pedlers, with their grade animals, which they are continually palming off upon an ignorant public at low prices for thorough breeds.—*Am. Ag.*

To make Johnny Cake.—Take two large cups of meal, one cup of flour, and one cup of sour milk, one egg, one table spoon full of molasses, and a tea spoon full of saleratus, dissolved; mix thoroughly, and add sufficient sweet milk to cause the batter to spread in the pans; then bake in the usual way.

Let the year's work be planned out beforehand.

MICHIGAN FARMER.

JACKSON, MARCH, 1846.

☞The office of the Farmer has been removed to the brick block adjoining the American Hotel.

The Close of the Volume.

With thus number ends the current volume of the Farmer. Our readers must judge whether its twelve numbers have embraced information, which entitles the work to future patronage. If a judgment may be formed, however, from the increase of the subscription list, or from the expression of public opinion, so far as heard from, we may be permitted to infer that the publication has not failed in accomplishing, to a considerable extent, its object,—public utility. For our own part we are well satisfied that there are single articles among the communications of our correspondents, to say nothing of the valuable selections from other journals, which, if studied, and carried out in practice, would repay many fold the price of the paper to every subscriber. The cost is but the value of some two or three bushels of potatoes; and the directions given by a correspondent in the present number on the culture of that root, will, if faithfully followed, probably add 50 times that quantity to most farmers' usual crop, without any increase of labor.

It is not pretended that in the matter which has filled our columns, there may not have been errors. But the reflecting farmer knows how to separate the chaff from the wheat—to select new suggestions of importance, and such as approve themselves to his reason and judgment, adopt—such as seem of doubtful expediency, to put to the test of cautious experiment. In this way, all the good may be culled, and all possible evil avoided.

To our brethren of the press, we would return our acknowledgements for the favorable notices from time to time bestowed upon this publication, and to numerous kind friends in various parts of the State, agents, post masters and others, our hearty thanks for their assistance, (often gratuitously rendered,) in extending its circulation.—Such evidences of public approbation are cheering and pleasant things in the lot of a publisher.

During most of the past year, we have labored under the disadvantage of not being able to furnish back numbers, the edition having been early exhausted. The ensuing volume will probably be commenced with an edition of about 4000,—a number that will enable us to supply complete sets through the year, unless the public patronage shall again exceed expectation. Even this number is very small, compared with the whole number of farmers in the State, and with the patronage which surely ought to be bestowed on the only agricultural publication within it.

Specimens of Wool.

We are desirous of forming a little cabinet of specimens of wool, from some of the best flocks of the state. It would be desirable that excellence of every kind should be represented, whether it relate to fineness, or length of staple, or the weight of the fleece. We would respectfully request the owners of choice flocks throughout the state, to send us specimens from their best sheep, at their next shearing, or sooner, each specimen being accompanied by a statement of the weight of the fleece, age of sheep, the breed to which it belongs, whether any of the flock are for sale, and at what price; and any other particulars which may be deemed important. The utility of this, will consist in affording to farmers who call at our office, an opportunity of forming, by comparison, a just standard of excellence, in judging of the quality of wool, and also furnish both to sellers and buyers, a medium of communication, even between distant parts of the state. Any one wishing to procure a particular kind of sheep, without hunting for them at random, would know where to find them, by simply calling at our office, and examining the specimens which may be furnished.

A beginning of this kind has already been made, in various specimens, presented at our request, by our correspondent, Mr. Barker, from his own sheep, and those of Mr. Mills, being some of the importation made by those gentlemen last summer. These flocks are of the Saxon breed, and their owners *challenge the state* to produce their equal in point of fineness. All, who feel interested, are invited to call and examine.

The Dairy--Some Inquiries Answered.

As the inquiries of Mr. Baker, published in our last, have not yet elicited a reply from any correspondent, we will endeavor to supply in part the deficiency.

1st. As to what breed of cows is most valuable for milk, butter, and cheese, a correct answer would involve a careful consideration of circumstances. Some of the foreign imported breeds are undoubtedly far superior to the average of our native stock, provided the farmer is prepared to bestow upon them the same amount of care and keep to which they have been accustomed. But if these animals were exposed to the rough-and-tumble treatment to which our native stock is in most cases subjected, they would degenerate, and

perhaps turn out no more profitable than those for which they were substituted. Until, then, the farmer is prepared to keep his stock well, both as regards food and shelter, the best that can be done is to improve the native stock by careful selection, and breeding with reference to dairy qualities.

With abundant feed, certain families of the improved short-horned Durham are esteemed superior for the dairy, to any other breed. But their large size, and tender habits, require extraordinary keeping, and the most particular care to maintain their condition. These qualities render them less adapted to a country like ours, where the foddering season is long, and where in summer the pastures are not unfrequently severely affected by drouth. A cross between these, and the best native stock, would be more profitable, therefore, than the pure blood. The Ayrshire and Devon, also distinguished English breeds, being smaller and more hardy than the Durham, and also excellent for the dairy, would, perhaps, all things considered, be preferred. The Devons have the further merit of furnishing the very best working cattle. Of foreign breeds, the choice would probably lie between the three above mentioned. Eminent breeders are divided in opinion as to their comparative merits. Colman, (no mean authority,) prefers for a New England dairy, the Ayrshire, or a first cross with the improved Durham and Devon.

2nd. "How may we ascertain the quality or richness of milk?"

Answer. By an instrument called a Lactometer, which is thus described:

"The lactometer consists of 4 or 5 glass tubes, about half an inch diameter, and 11 inches long, fitted into an upright mahogany frame; each tube having a fine line drawn round it 10 inches from the bottom; 3 inches from the line downwards, it is graduated into inches and tenths of inches. At milking time each tube is to be filled up to the line with new milk. After standing 12 hours, the quantity of cream which floats upon the surface is shown by the scale of inches and tenths; each division will therefore represent one per cent. of the whole.

"If the milk given by a cow at one meal is 1 gallon, or 8 pints, and the thickness or depth of the cream which floats upon it measures 14 divisions, multiply the number of pints, 8, by the depth of the cream, 14; the result will be that the produce of the cream of that meal is 112, or 1 pint 12-100. Care must be taken to fill these tubes as soon as the pail is taken from under the cow, for if any delay takes place, some of the cream will have ascended towards the top. The milk should be taken from the middle of the pail, which is to be done by dipping a cream-pot below the froth."

The quality of milk may also be judged of by its weight, rich milk being lighter than that of a poor quality—but the difference is so slight, as to require an accuracy of weight too great for practical purposes.

The remaining inquiries we defer for the present, in the hope that some other will take up the subject.

Flocks of Messrs. Barker & Mills.—A correspondent, J. G. F., wishes to set the public mind right in regard to an impression, which, he says, has gone abroad, that the lately introduced flocks of Barker & Mills are deteriorated, and not what they are represented to be. He is well acquainted with the flocks, of which 400 are pure Saxon, bought of Mr. Scoville, Ct., who derived them from those imported from Saxony, in 1826, by Messrs. G. & T. Searl, of Boston, and has crossed with the flock of the late H. D. Grove, of Hoosic, N. Y., a distinguished breeder of the pure Saxon. J. G. F. says the clip of Scoville's flock sold in 1844 at an average of 65 cts. per lb.; the last year, his sales not heard from;—average weight of fleece, about 3 lbs. Papers in the hands of Messrs. B. & M., taken from Mr. Scoville at the time of purchase, show these facts. The cream of those flocks, J. G. F. says are eight sheep, purchased of Mr. Church, of Vernon, Oneida Co., N. Y. None of the above mentioned sheep are held for sale. They have also about 300 that are held for sale, and these are ¾ Saxon, which they wish people perfectly to understand and not be deceived. J. G. F. further says Mr. B. has had 210 sheep closely housed since the first week in December: that they are smart and active, manifesting nothing like languor from confinement, or from the unhealthfulness of the atmosphere; that, indeed, there is nothing like a disagreeable scent, as might be expected, and as many suppose there would be in their place of confinement.

It is due to truth to add, that from subsequent information, we are satisfied that the unhealthfulness of Mr. Belknap's flock, referred to in our January number, was owing to other causes than confinement, for they had the range of large yards.

Nobly done.—A correspondent from Eden, Ingham county, in a letter sending us a list of subscribers for the next volume, writes as follows: "We have organized an Agricultural Society in this town, (Vevay,) and we hope have awakened a spirit in the agricultural community hereabouts, which will not soon be found slumbering."

Honor to Vevay, and its enterprising farmers! We shall expect to hear from some of them as correspondents before the year is out. The example set by this comparatively new settlement, is one well worthy of being followed by other and wealthier communities. Why may there not

be agricultural clubs in Michigan, as well as in the Eastern States? Why should not the motto, "teach one another," apply here as well as there?

THE RIGHT SPIRIT AT WORK.—GOOD AGAIN.—Since writing the above, we have received information of the organization of another similar society, by the following letter:

Raisinville, Monroe Co., Mich.,
Feb. 14th, 1846.

MR. EDITOR:—On the 2d inst., we formed an Agricultural Society in this town, under the name of the "Raisinville Farmer's and Mechanic's Society," its object being the advancement of our agricultural interest, and the improvement of the mind. Our prospects in starting are very flattering, and we hope soon to see, and feel the benefits which must arise from such an association.

Respectfully Yours,
A. G. BATES, Cor. Sec'y.

The Association will accept our thanks for the accompanying order. The papers will be sent, commencing with the next volume.

MAPLE SUGAR.—Mr. E. H. Higley of Lapeer, writes us some remarks on making maple sugar. Mr. H. says, "Make all dishes, pans and kettles used, clean; boil your sap before it sours; never let sap, after being heated, cool in an iron vessel; once in twelve hours, syrup off, and put your syrup, (the hotter the better,) into a tub smallest at the bottom; let it stand 48 hours; drain off and strain when cold, through flannel. Never use a kettle without washing, as some do; they say it is wasteful to wash after taking out the syrup, and will commence boiling, with the syrup sticking on the kettle; and in that way color their sugar in the first start. The old proverb I believe to hold good in sugar-making; "An ounce of prevention is worth a pound of cure." Begin with clean dishes, and keep them clean, catch your sap clean, and keep it clean." This done, Mr. H. says you will have clean sugar, without any cleansing application, the use of which we understand him to disapprove. Certainly too much care cannot be used to have every part of the process a cleanly one; but we think most sugar makers will disagree with him in supposing this will make unnecessary and inexpedient all cleansing whatever. We should like right well, however, to test the matter, by trying that 'lump' that our friend wishes to send us.

A CORRECTION.—In the valuable article in our last number, on "Vegetable manures," taken from the Farmer's Cabinet, was one statement, which may lead to misconception. It is asserted that "vegetable manures, acting on the principle of slow but sure, gradually restore all that a soil has lost, by bad cultivation, or from being overworked." The writer then goes on to speak of the plowing in of green crops, and the inference may be drawn that he would intimate that an exhausted soil may be gradually restored to all its original fertility, by simply raising green crops upon it, and plowing them in. This would be clearly a mistake,—for these crops can supply no additional fertility but what they borrow from the atmosphere, and this cannot furnish the mineral ingredients that enter into the formation of plants.

If, however, in the term "vegetable manures," is included marsh muck, straw, and other vegetable matters, decomposed or undecomposed, the remark above made is not far from correct:—for these substances do contain all or nearly all the mineral constituents of which culture has divested the soil—though, it may be, not always in the most desirable proportions.

CULTIVATION OF CARROTS.—We would commend to our readers the article on this subject from our correspondent, Mr. Noble. Unless we greatly mistake its value, it is worth many dollars to every farmer, not already acquainted with his method. It appears to obviate the only objection to the introduction of that valuable root in field culture, viz., its slow germination.

VEXATIOUS.—We are again disappointed in an engraving. It was spoiled, when nearly completed, in the hands of the engraver. The truth is, there is not a competent workman in the art, we believe, in the State, and we must hereafter look elsewhere.

Milking Properties of Milch Cows—The new Discovery.

In the February number of the Farmers' Library, is contained a part of the promised publication of the newly discovered method of determining the milking properties of milch cattle. The method, though founded upon simple natural exhibitions, which are said to be sufficiently apparent, is elaborate in its details. A copyright of the translation having been secured by the publishers of the Library, we should not be able, did space permit, to transfer it to our columns. We can do no more at present, than glance at some features of the discovery, so far as yet made known. The system is the work of M. Francis Guenon, a Frenchman, who for many years pursued the business of a dealer in cattle. It proposes to determine

1*st. The quantity of milk which cows can yield daily.*

2*d. The period during which they will continue to give milk.*

3*d. The quality of their milk.*

The same signs are found upon calves of three or four months old, and upon bulls, as upon cows.

The first inkling, which led subsequently to the matured discovery, was obtained by him, when a mere lad. The following is his own account of the manner in which he was led to form his system:

"When fourteen years of age, I used, according to country custom, to drive our only Cow to the grazing ground. I was very fond of her, and could have identified her among ever so many. One day, as I was whiling away my time in cleaning and scratching my poor old companion, I noticed

that a sort of bran or dandruf detached itself in considerable quantities from certain spots on her hind parts, formed by the meeting of her hair, as it grew in opposite directions; which spots I have since called *ears*, feom the resemblance they often bear to the bearded ears or heads of wheat or rye. This fact attracted my attention, and I recollected having heard one of my grandfathers say that it was probable there were external marks on Cows, whereby their good qualities or their defects might be known—just as we judge of the vital force of a plant and its qualities by means of its leaves and the lines on its skin. My own thoughts now took this turn. Reflecting on the subject, I arrived at the conclusion that if, in the vegetable kingdom, there exist external signs, whereby the good and the bad qualities of a plant can be positively known, there ought to exist in the animal kingdom, also, marks whereby we may judge, by inspecting an animal, of its qualities, good and bad; and I thougnt that I had discovered one of these signs.

"All this, however, was as yet but mere speculation—a brilliant theory, which experience might belie: it was necessary to interrogate Nature. The Cow which I tended was a good milker. I have already said that I knew her perfectly. I examined other Cows withiu my reach, to see if I should find the same signs in them. I sought for the bearded *ears (quirls)*, and scratched those spots in quest of dandruf: the abundance or the scarcity of this being what first engaged my attention. Every new Cow was compared with my own as a standard, and her superiority, equality or inferiority determined in my own mind.

"From this moment I spared nothing to follow up my observations; no fatigue was too great for me; I have often traveled several leagnes in order to examine a single Cow. What was my exultation when, after I had formed my judgment of a Cow, the questions with which I belabored her owner brought forth answers that corroborated its accuracy! How often has it happened that people were convinced that the animal whose qualities I was pronouncing upon must have been previously known to me! My secret was the cause of astonishment to many; I took good care to keep it to myself.

"In the course of the comparisons thus instituted by me, with reference to the dandruf alone, which was at first the only thing that governed me, I had occasion to remark that great diversities existed among Cows, in respect to the shape of the bearded ears *(quirls)* which produced the dandruf. This suggested a new train of reflections and observations, which resulted in my becoming convinced that these *shapes* were the signs by which to distinguish Cows, and to know the good and bad qualities of every individual among them. From that moment my discovery was made; but it was necessary to digest it into a system—above all, to establish its accuracy in all its parts, by proofs which should carry my own conviction into the minds of others. It was here that all my courage and perseverance was put in requisition."

The following extract from the report of a committee to the agricultural society of Bordeaux, will show the manner in which the system was put to the test, and the result:

"Every Cow subjected to examination was separated from the rest. What M. Guenon had to say in regard to her was taken down in writing by one of the Committee; and immediately after the proprietor, who had kept at a distance, was interrogated, and such questions put to him as would tend to confirm or disprove the judgment pronounced by M. Guenon. In this way we have examined, in the most careful manner—note being taken of every fact and every observation made by any one present—upward of sixty Cows and Heifers; and we are bound to declare that every statement made by M. Guenon with respect to each of them, whether it regarded the quantity of milk, or the time during which the Cow continued to give milk after being got with calf, or, finally, the quality of the milk as being more or less creamy or serous, was confirmed, and its accuracy fully established. The only discrepancies which occurred were some slight differences in regard to the *quantity* of milk; but these, as we afterward fully satisfied ourselves, were caused entirely by the food of the animal being more or less abundant.

"The results of this first test seemed conclusive; but they acquired new force from those of a second trial, in which the method was subjected to another test, through M. Guenon and his brother. Your Committee, availing themselves of the presence of the latter, caused the same Cows to be examined by the two brothers, but separately; so that, after a Cow had been inspected, and her qualities, as indicated by the signs in question, had been pronounced upon by one of the brothers, he was made to withdraw; then the other brother, who had kept aloof, was called up, and desired to state the qualities of the same animal. This mode of proceeding could not fail to give rise to differences—to contradictions, even—between the judgments of the two brothers, unless their method was a positive and sure one. Well! Gentlemen, we must say it—this last test was absolutely decisive: not only did the various judgments of the two brothers accord perfectly together, but they were in perfect accordance, also, with all that was said by the proprietors in regard to the qualities, good and bad, of every animal subjected to this examination."

In regard to the degree of credibility which may attach to this subject, we can only say, it comes recommended by such high authority, and the story is told with so much the air of truth and reality, and so elaborate a system has been wrought out, that it challenges a candid examination. It appears, too, to be easily put to the test of experiment, and the reality or falsity of the statements perfectly determined. If it be a humbug, therefore, it is one which will not last long; while, if it turn out to be, as asserted, a well founded and accurate method, it will be of incalculable importance. We shall refer to it again, when the system shall have been more fully disclosed.

GRAFTS.—Now is the season for cutting grafts, if it has not been already done.

Farm of General Rawson Harmon.

When returning from the New York State Fair we visited General Harmon, and was so much delighted with many features of his farm management, that we promised him, when an opportunity presented, we should treat the Canadian farmers with a brief history of his agricultural operations. To redeem this pledge in full would occupy more space than we have at present at our command. We shall therefore briefly hint at a few outlines of his agricultural operations, and may at some future time take up the subject, with the view of rendering it that justice which it so obviously merits.

Wheatland principally consists of that description of soil which is known upon this continent as "oak openings." The leading features of which consist of a mixture of clay, sand, and limestone gravel, in nearly equal parts, and is probably on the whole the most barren in vegetable matter of any of the soils in North America. The surface of the country is beautifully undulating, and the hills within a few feet of the surface are embedded with white and grey gypsum in inexhaustible quantities, and the valleys are stored with carbonated lime to an almost equal extent. As the name of the town would indicate, it is distinguished for its superior adaptation for the wheat crop. The soil is dry, porous, and contains only about five per cent of vegetable matter, and hence *rust* is almost unknown in this region. With this cursory geological description of the district, we will at once proceed to General Harmon's mode of farming, which with a very slight mode of variation, is practiced by the principal farmers in the town of Wheatland. The crops grown upon Mr. Harmon's farm consist principally of wheat and clover. About one-third of his land is annually sown with wheat, and with this crop he invariably seeds down with clover.—After mowing the first crop of clover, the sheep are turned into the fields and continued there until late in the autumn; the second year's growth is also fed with these animals until late in June, at which time they are broken up and fallowed. In breaking up the fallows, the furrows are ploughed to the depth of eight or nine inches, and in the course of the summer a common two-horse cultivator is employed two or three times to keep down the weeds and to expose new surfaces of the soil to the action of the atmosphere. The fallows are cross-ploughed to the depth of five inches, from the middle of August to the first of September, and without further preparation the wheat is sown at the rate of five pecks per acre from the eighth to the fifteenth of September. The seed is sown with a sowing machine and covered with a *gang* plough, which implement consists of five ploughs so constructed in a frame, that they operate from two to four inches in depth, and plough to the width of five feet, by which operation the seed is covered, pretty much after the style of ploughing in with an ordinary plough, but with much greater facility; the common cultivator is also used for the same purpose. Before sowing the seed it is prepared by soaking it in strong brine, after which it is dried in lime at the rate of two quarts of lime to a bushel of wheat, and is allowed to lie in lime twelve hours before sowing. About ten or twelve acres is annually sown with oats, after which crop the ground is ploughed in the autumn, and the following spring manured at the rate of thirty-two horse waggon loads of barn-yard manure per acre, which is ploughed in and planted to corn and potatoes. A small twelve-rowed variety of corn is principally used, which is usually planted about the 20th of May, and is ready for harvesting by the 1st of September. As soon as the corn and pumpkins are removed off the land the ground is ploughed and sown with wheat, which most generally yields the most productive crop upon the farm.

Mr. Harmon annually cultivates about fifty varieties of winter wheat, but his main crop consists of a justly celebrated variety, known as "General Harmon's improved white flint wheat." His average yield of wheat for a series, say of eight years, has equalled about 25 bushels per acre, and that of corn for the same term, about 40 bushels per acre. Both smut and chess are entirely strangers to him, or in other words he is not troubled with either of those pests. The farmer who formerly occupied this farm, used to grow chess in abundance, and was one of those who could not be persuaded but that wheat would turn to chess; and entertaining this opinion, it was not to be expected that he would be at any trouble in cleaning his land and seed, with a view of preventing the recurrence of chess among his crops. The present occupier, by close observation, had learned that those who sowed chess must expect to reap this worthless grain in proportion to the quantity sown, and consequently took the precautionary measures for thoroughly eradicating the evil. In three years he effected his purpose, and from that time up to the present period, his farm has not been known to grow a single plant of chess. His average crop equals about 1,200 bushels, and in the whole of this vast quantity, not a single grain of chess or a ball of smut is to be seen. This fact is a most convincing argument in favor of the truth of the theory which we have so frequently advanced on this subject, viz: that chess is a distinct species of grain, and that the transmutions of grain is a theory which is opposed to common sense, and vio-

lates one of the most beautiful laws of nature.

The sheep upon this farm are of the pure blooded merino breed, and were on the whole the best flock of the kind we have seen. A flock of 319 clipped 1179 lbs. of clean wool, which brought in the market 375 dollars. In 1844 the wool from 298 sheep brought 594 dollars; and the same year 63 three year old weathers clipped an average of 4 lbs. wool each; and one ram of the Paular breed sheared 9 lbs. clean wool.

Cisterns.

Many farmers might conveniently, and with great advantage, furnish themselves economically with an extensie and permanent supply of water, when otherwise deficient, by constructing cisterns. Where they have compact clay land, no further preparation is necessary for ordinary use for stock, than to excavate to a sufficient size; and to keep up the banks on every side, place two frames of single joists around it near the top and bottom, between which and the banks heavy boards or planks may be set in an upright position, reaching from top to bottom. The earth keeps them in place on one side, and the joists prevent them falling in. They require to be only tight enough to prevent the clay from washing in. No appreciable quantity of water will escape from the sides or bottom. We have had such an one for years without repairs or any material wasting of water. This should be made near the buildings; and the rains, carefully conducted by the eaves-troughs and pipes from an extensive range, will afford an ample supply. For household purposes, one should be made with more care and expense, and so constructed as to afford water at all times. These may be formed in various ways, and of different materials, stone, brick, or even wood; though the two former are preferable. They should be permanently divided into two apartments, one to receive the water, and another to be used as a reservoir to contain such as is ready for use. Alternate layers of gravel, sand, and charcoal at the bottom of the first, and sand and gravel in the last, are sufficient; the water being allowed to escape from the bottom of the former into the latter, through the several layers mentioned, will be rendered perfectly free from all impurities, and furnishes the purest water in the world. Some who are particularly choice in preparing their water, make use of filtering stones, but this is not essential to securing a choice article. Occasional cleaning may be necessary, and the substitution of new materials will at all times keep them sweet.—*Am. Agriculturist.*

☞ Persevere against discouragements.

Exhaustion of Land by Growing Wheat.

To confine ourselves to Wheat—it appears from the recent researches of Dr. H. Will that 100 parts of the earthy constituents of the grain consists of—

Potass	22 to 34 parts.
Soda	16 parts.
Lime	2 to 3 parts.
Magnesia	9 to 13 parts.
Peroxide of iron	1 parts.
Phosphoric acid	49 parts.

A trace of sulphuric acid, silica, and fluorine. whilst the earthy constituents of Wheat straw contain very little phosphoric acid, but a large amount of silica. Now, it is obvious that if the farmer continually restores all the straw to his land, but neglects, from want of knowledge, or means, to replace the earthy matter of the grain, the land will be exhausted, and he cannot continue to grow wheat upon it.* Moreover, if he make an effort to maintain the fertility of the land for Wheat, he must restore to it every ingredient of which it becomes exhausted by his crop in a proper proportion. To know this proportion essential to the growth of every particular crop, he must have recourse to information supplied by Chemistry. One of the earthy constituents of Wheat enters so largely into many other crops, that the amount taken off the land everywhere is very great. and constitutes a considerable proportion of the total amount contained in ordinary land, so that the loss has already, even in the present state of science, excited attention, and aroused the efforts of the farmer to repair it. We allude to phosphoric acid. Now, the chemist has shown, that in the bones of animals a great part of this material which has been drawn from land in the growth of vegetables is to be found, stored up in a form suitable for its restoration.

*This accounts for the exhaustion of the wheat lands, in Western New-York, from twenty bushels of Wheat to the acre, twenty years ago, down to eleven bushels now. This accounts too, in part, for the check to the population of that region in the last few years. There will be general exhaustion and drain from all the other States, as long as land can be had in the West for $1 25 and for nothing after a few years when emigrants and their descendants get a little stronger. [Ed. Farm. Lib.

Prospects of the Fruit Grower.—We regret to learn that the blossom buds of peaches and cherries, are in some localities in this and adjoining counties, already partially blasted. The mild weather of November, and the intense cold of a few days in December and January, have been assigned as the cause.

This unfavorable weather appears to have extended generally through the Western States. In Missouri there is complaint of more winter killing in the nursery, than has occurred since 1832. The Western Farmer & Gardener warns its readers to expect a great prevalence of fire-blight the ensuing season.

Extracts from Morrell's American Shepherd.

Importance of green food for Sheep.—The feeding of green food, such as potatoes, apples, hemlock or pine bows, &c., is strangely disregarded by a large majority of American sheep-growers. This is a prominent point of attention in German management; indeed, it is thus in every section of the Continent where fine-wooled sheep are cultivated. The sheep, if placed in localities suitable to its general habits, at no period of the year is it so perfectly healthy and thrifty as during the season of pasturage; and from this the inference should be deduced, that succulent food is the prominent inducing cause. Confinement wholly to dry food does not comport with that variety of condiment, which has so frequently been urged; and consequently if a provision is not made of something else, it will be followed by disorganized action of the digestive functions, producing costiveness and constipation. The disease so frequent and fatal in American flocks, called the "stretches," results from costiveness; but this is scarcely known in England, which arises from the large quantities of succulent food the sheep are supplied with during the winter months.—In addition to this, further proof may be found in the fact that it is never known to attack an animal during the grass season. The writer speaks from personal observation, in stating that a supply of green food is indispensably necessary as a preventive of this disease.

In addition to green food operating thus, it has a tendency to increase the wool and yolk secretions, and thereby those valuable properties of wool, such as elasticity, softness and soundness, are increased and perfected; and withal, being conducive to health, the condition is improved, and consequently an augmented quantity of wool is a certain result.

—

Water Necessary.—That water during the foddering season is of paramount importance to the health and general well-doing of sheep, is no longer a mooted point. It is true that the animal will quench its thirst, as far as it is possible, by eating snow; but if tested by experiment, it will readily be seen which it prefers. Some object to provide water, for the reason that, when the weather is very cold, it drinks too much, and thereby is robbed of much animal heat. This is somewhat true, but if warm shelters are provided, as they should be, it is counteracted. If the experiment is made with a given number, a portion being permitted access daily to water, and the others only the poor privilege of eating frozen snow to be dissolved in the stomach, it will be discovered that the first are more healthy, and will yield a greater crop of wool, which will be distinguished for those properties named under the preceding head. It cannot be expected that the wool fluids will be abundant if the sheep is denied water, unless roots form a good portion daily of its consumption. In this case they will rarely drink, provided they are not salted too profusely. If the reader will refer to the chapter on the "Structure of Sheep," he will discover that a large supply of *saliva* is needed in the process of rumination, which must be afforded, mostly, either by green food or water. In conclusion humanity demands our practical attention to this subject.

—

Breeding Ewes.—This portion of the flock demand no special attention beyond a full measure of food, until the approach of spring. The course of management then will depend on the time of yeaning, which, if fixed for the month of April, they will require a large measure daily through March of potatoes, for the assimilation of milk. In addition, nothing better can be supplied them than a half pint each of wheat shorts, mixed with a little barley or oat-meal. Oil-cake and corn-meal are not so suitable, as they do not afford as much *cassein*, the only nitrogenized element, as the reader has been informed, of milk. Their fodder through the winter should be of a miscellaneous character. Pea and buckwheat straw are highly agreeable to them, especially the former, which, from its succulency, is well suited to their situation.

—

Hospital Flock.—This is the general appellation of such sheep as are in low condition, proceeding either from poor keep, or temporary illness.

The attentive and well-ordered sheep husbandman will not be troubled with many of this class, for he will not over-stock, neither will he permit any to remain on his hands till they have become too old; thus few will enter the "poor house" to reflect unskilful management. It is scarcely necessary to say, however, that every good flock-master will provide a place for the reception of sheep under consideration, as often, in spite of his humane care, disease will make its way to some individuals, which, in that event, require removal from their strong and healthy comrades, and treated accordingly. After the disease is subdued, their diet should depend much on the character of the malady. As a general rule, their food at first should not be of an exciting nature, especially if the disease was seated in the stomach, or intestines.—When a sheep is seen declining in flesh, let it be removed forthwith to the hospital, and after a few weeks perhaps it may resume its place in the flock from whence it was taken;

This is often so, if the removal is instant in the early stages of decline. Variations of the food will greatly contribute to restore invalids, as well as those in poverty of flesh.

On the Cultivation of Prarie Roses.

All details of experiments carefully made, are instructive; and they are interesting in proportion to their successful results. Few persons, comparatively, are aware of the great beauty of the hybrid Michigan roses, or of the facility of their cultivation. They delight in an eastern exposeure, on a light, rich, well worked soil, with an abundance of the most nutritious diet. I cannot better recommend their culture than by giving you the results of an experiment of my own, with a single plant of the "Queen of the Prairies."

Early in the spring of 1844, I purchased at auction a slight sprig of that variety, potted and in bloom. As, however, upon examination, it proved to be covered with red spiders, I then plunged the pot in an out-of-the-way corner of my garden as of no value. In May of that year, I cut it to the ground, washed it carefully, and transplanted the root to a warm border, where it has since remained. That season it made two shoots, some seven or eight feet high and of great strength. During the winter these were laid down and slightly covered.

Last spring those two shoots, shortened to six feet, threw out, through their whole length, lateral branches, from twelve to fifteen inches long. At the end of each lateral there was a cluster of blossoms of great size and beauty giving me, on the whole plant, over forty clusters. They commenced opening in June, were all very large and perfect, continued a long time and were greatly admired.

Early last spring, the plant threw up two strong, vigorous shoots, which have continued their growth, with the utmost luxuriance, to the present time. They now measure over twenty feet in height, and of corresponding size and strength.

After the blossoms had all matured, I layered the old shoots, and all new ones except the above two, carefully slitting the old wood on the under side, below each lateral, which I retained. These have thrown out an abundance of roots.

In addition therefore, to the original plant, with its two shoots of, to me, surprising growth and vigor, I have now some twenty-five smaller plants for distribution among my friends.—This is the second year's product of a plant which has paid its way many times over in its beauty and its highly ornamental character.—*Charles Robinson, Esq., in Hovey's Magazine.*

From the N. Y. Tribune.

The Potato Disease.

Although it is not my good fortune to be a farmer, I take a deep interest in agriculture, and rejoice in the rapid spread (through the instrumentality of "The Farmers' Library" and kindred works) of agricultural information. Although I am not a native of the "Green Emerald Isle," yet I am a lover of a good potato, and as such cannot look with indifference upon the ravages which disease is making upon that most useful plant.

In noticing from time to time articles in "The Tribune" upon the subject, and solicitations for all information which might tend to throw light upon the disease, which so seriously threatens to be one of extermination, I have been led to hope that the following accidental discovery, might be considered by you as of sufficient importance to merit a notice in your widely circulated paper.

By the family in which I board, two barrels were used in which to store potatoes.—One of these barrels had previously been used for storing charcoal, and a considerable quantity of the coal dust had adhered to its inner side. On removing the potatoes for use, it was found that those taken from the coal barrel were comparatively sound, while those from the other were almost wholly unfit for use.

Knowing the conservative properties of charcoal, and discovering no other cause, I attributed the preservation in the one case to its presence. These being the facts, would it not be well for some of your *farming subscribers* who are more *immediately* interested than myself, and have greater facilities for *experimenting* to do so and report success? I would suggest that the efficacy of pulverized coal be more thoroughly tested by packing the potato closely in it. Should the above experiment of *packing* prove successful, suppose a liberal quantity of coal should be applied to the soil upon which the crop is to be raised.—These, Messrs. Editors, may be *laughable ideas* to those skilled in agriculture and the nature of the disease of which I have been speaking; but they are ideas founded upon *facts*, and as such claim an examination.—Proving well founded, they may be of some consequence to the farmer, and to all. S.

Effects of Drouth,--Carrots.

It is a common saying among farmers, that in a dry season the soil will suffer the drouth better without manure than with it. This assertion, can only be true when the manure is slovenly applied, in a crude and undecomposed state. I have noticed that leguminous plants grown the past unusually dry season, have had a much shorter tap root than those grown in

ordinary seasons. I gathered white carrots this fall with the greatest ease by hand, without fork or spade; many of the tap roots were rounded off four or five inches below the surface, but the lateral roots were many and long; the carrots high out of the ground, many of them three inches in diameter, by twelve in length. I attribute the phenomena of the rounded tap root to the extreme drouth of the season; in default of a moist sub-soil, the plant sent its roots laterally to drink the water artificially supplied by the chemical union of the hydrogen of the humus in the soil with the oxogen in the air. Petzholdt says that the formation of carbonic acid takes place principally at the expense of the oxygen of decaying matter—and that the hydrogen from the same matter forms water by like union with the oxygen of the atmosphere. Liebig says that the quantity of water produced by an acre of fresh plowed sward ground amounts to 950 lbs. per hour, which equals the evaporation per hour from an acre after copious rains.—The results in vegetable growth the past unusually warm dry summer, go far to corroborate the truth of the above views. How else are we to account for the unusually large crops produced this season from every well worked field, while the meadow and pasture lands have suffered severely from drouth.

PLANNING.— The sagacious, systematic farmer, will avail himself of the opportunity afforded by the leisure of winter, to plan operations to be carried out the coming season. In this practice lies the secret of many a farmer's thrift, as well as many a farmer's *un*-thrift.

The devising and perfecting of plans before attempting undertakings, is as important and as useful to the farmer in his business, as to the military chieftain in his, and is as sure to conduce to the success and fame of the former as the latter. The characteristics which made Washington a great General, made him also, a good farmer,—and foremost of these were energy and forethought—the head to plan, and the arm to execute.

Plans for improvements on the farm should not only be devised in a season of leisure, but commited to paper—considered, reconsidered, and placed in the order of time at which they will have to be executed.

This practice, if universally adopted, would tend to the accomplishment of many improvements which from year to year are unattempted, merely for the want of forethought.—*N. E. Farmer.*

To the Public.

☞ *All travelling agencies for this paper are hereby discontinued. Henceforth no commissions will be given to any but those whose names shall be announced.*

CURE FOR WOUNDS IN HORSES.—Take one gill of turpentine, two gills of whiskey, and one egg. Beat the egg well, and mix the three together.—It should be applied with a feather or swab twice a day. It keeps a wound healthy, and prevents its healing too rapidly. For its efficacy I can vouch. J. S. C.—*Albany Cult.*

Wilson's Corn Crusher Again.

THE subscriber would hereby say to the public, that he is now prepared to furnish (on short notice,) those who wish, with a portable mill, capable of grinding 30 bushels of ears of corn per hour, or grinding other coarse grain for feed, or shell corn, (with a rush,) rub out clover seed, &c., &c., called J. L. McKnight's patent Corn Crusher and Clover Rubber.

The subscriber is also prepared to sell Town or County rights on liberal terms.

The machine works like a charm, and is applicable to horse, steam, or water power. One horse is sufficient to perform the necessary grinding for any farm or other establishment for home consumption, but more power is necessary to do custom work at a profit. The subscriber has now in operation in his shop at his Temperance House in Jackson, a two horse power, by which, with the force of one horse only, (at present,) he drives his machine.

The advantages of feeding corn and cob in this manner are now too well understood to need rehearsing. Suffice it to say, that, at the South, where they raise corn easily, where it is worth 10 cts. per bushel, they think it an object to economize by grinding and feeding the cob, and that too, where they give from 1-4 to 1-3 for grinding, either for feed or distillation.

One, two or three competent salesmen wanted, to sell rights to said machine in this state and Ohio, also to sell rights in this state, to Thompkins' morticeing machine,—the best now in use.

J. T. WILLSON.

Jackson, Feb. 25th, 1846.

CONTENTS OF THIS NUMBER.

Successful culture of potatoes;	177
Cultivation of Carrots; Management of Sheep;	178
N. Y. State Agricultural Fair for 1846; Cheese making; Diamond Cement;	179
Experiment in growing Indian Corn; Seedling Fruit; Successful Farming; Value of Agricultural labor;	180
Buckwheat without grit; Description of a mounted stone boat; Improvement of clayey and sandy soils; New way of making butter;	181
Cultivation of Indian Corn;	182
Breaking Steers; To make johnny cake;	183
The close of the Volume; Specimens of Wool; The Dairy; Some inquiries answered;	184
Flocks of Barker & Mills; Agricultural societies formed;	185
Maple Sugar; A correction; Milking properties of milch cows,—the new discovery;	186
Farm of Gen. Harmon;	188
Cisterns; Exhaustion of land by growing wheat; prospects of the fruit grower;	189
Green food and water for sheep; Breeding ewes; Hospital flock;	190
The Potatoe disease; Effects of drouth,—carrots; Cultivation of Prarie Roses;	191
Planning; To the public; Cure for wounds in Horses;	192

MICHIGAN FARMER.

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We have on hand a few sets of the first and second volumes of the Farmer, which we propose to dispose of in premiums at the following liberal rates.

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